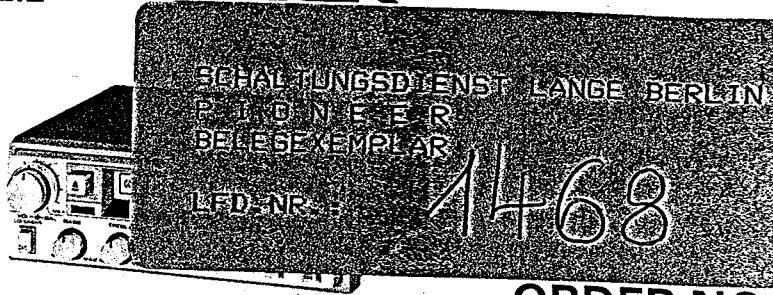


Service Manual

PIONEER



The photo shows the model KP-212G.

ORDER NO.
CRT-326-0

COMPONENT CAR STEREO CASSETTE DECK

KP-313G
KP-212G

E

E

NOTE:

For cassette mechanism, refer to the following Service Manuals (Cassette mechanism unit).

KP-313G/E → CX-146/F (CRT-324)
KP-212G/E → CX-147/B (CRT-325)

SPECIFICATIONS

General

Power source DC 14.4V (10.8~15.6V allowable)
Grounding system Negative type
Dimensions 150(W)×50(H)×134(D) mm
Weight 1.2kg
Tone controls (bass) ±10 dB (100Hz)
(treble) ±10 dB (10kHz)
Loudness contour +12 dB (100Hz), +4 dB (10kHz)
(volume: -30 dB)
Maximum output level 200mV
Output impedance 1kΩ

Tape player

Tape Compact cassette tape (C-30~C-90)
Tape speed 4.76cm/sec.
(+0.19cm/sec. -0.05cm/sec.)

Fast forward/rewind time Approx. 100 sec. for C-60
Wow & flutter 0.09% (WRMS)
Frequency response Metal: 30~18,000Hz (±3 dB)
Normal: 30~15,000Hz (±3 dB)
Stereo separation 45 dB
Signal-to-noise ratio 55 dB (IEC-A network)

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

PIONEER ELECTRONIC CORPORATION

PIONEER ELECTRONICS (USA) INC. 1925 E. Dominguez St., Long Beach, California 90810 U.S.A.

PIONEER ELECTRONIC (EUROPE) N.V. Keetberglaan 1, 2740 Beveren, Belgium

PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia

EK© NOV. 1982 Printed in Japan

1. PARTS LOCATION

- For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
★★: GENERALLY MOVES FASTER THAN ★.
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

• KP-313G

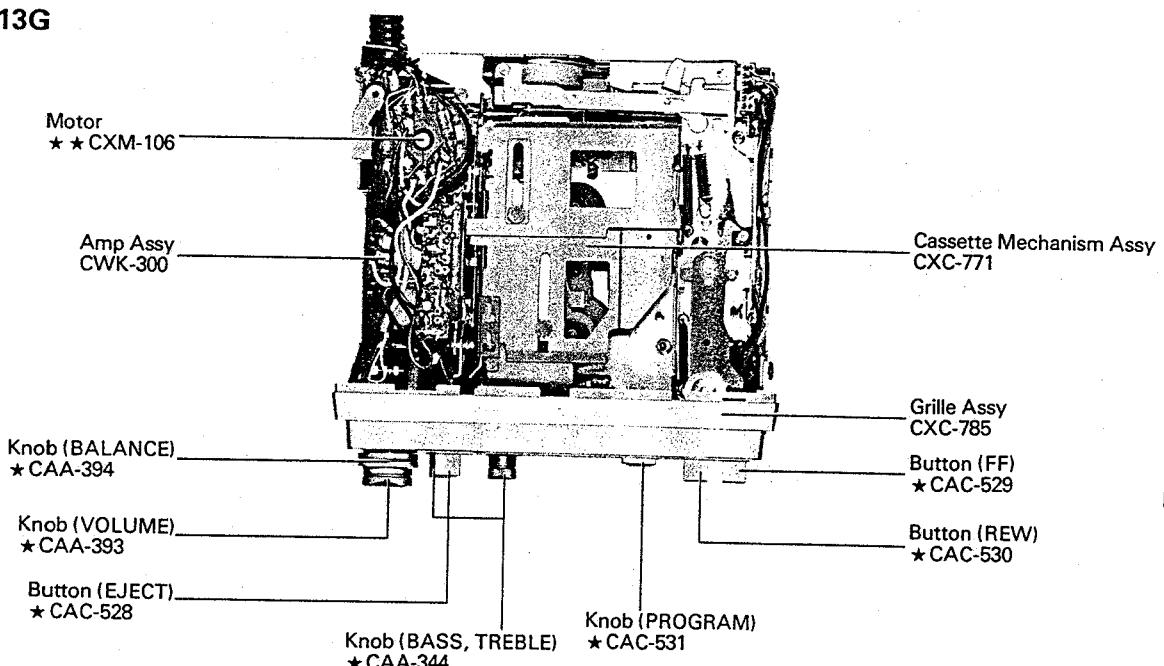


Fig. 1

• KP-212G

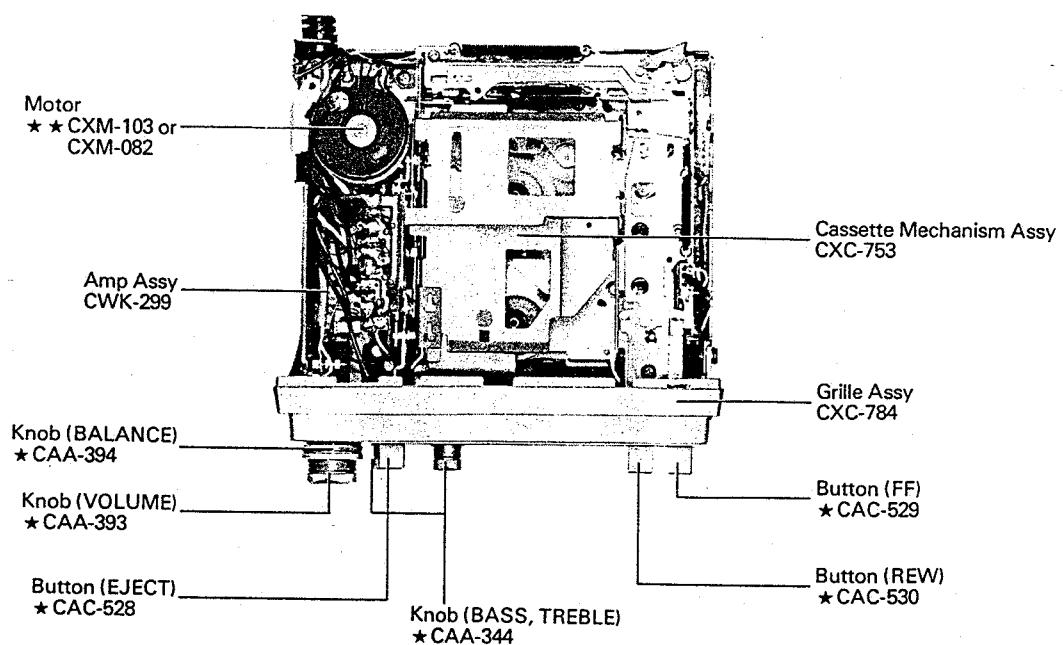


Fig. 2

3. SCHEMATIC CIRCUIT DIAGRAM (KP-313G)

AMP P.C. BOARD

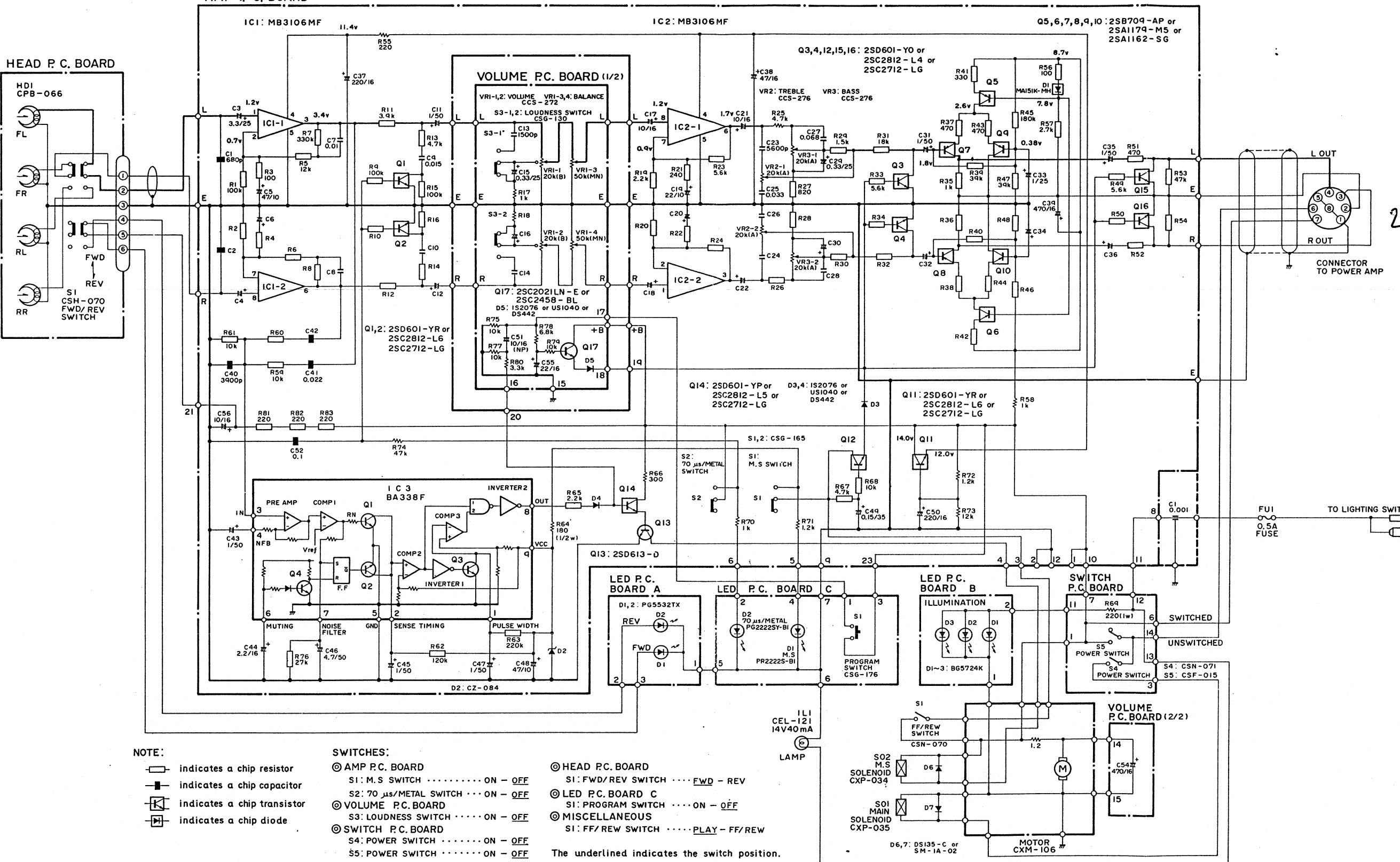


Fig. 10

4. CONNECTION DIAGRAM (KP-313G)

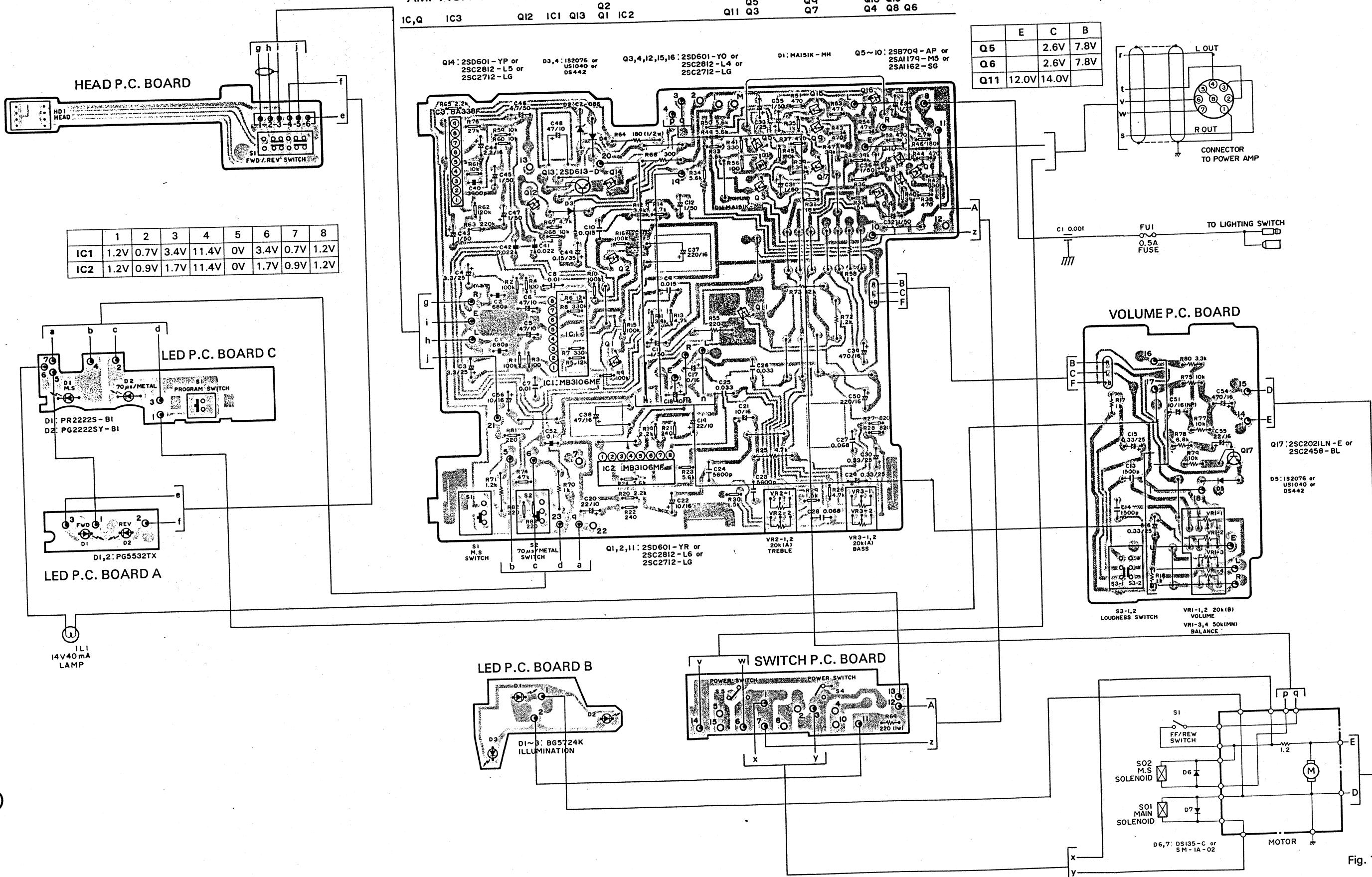


Fig. 11

4. CONNECTION DIAGRAM (KP-313G)

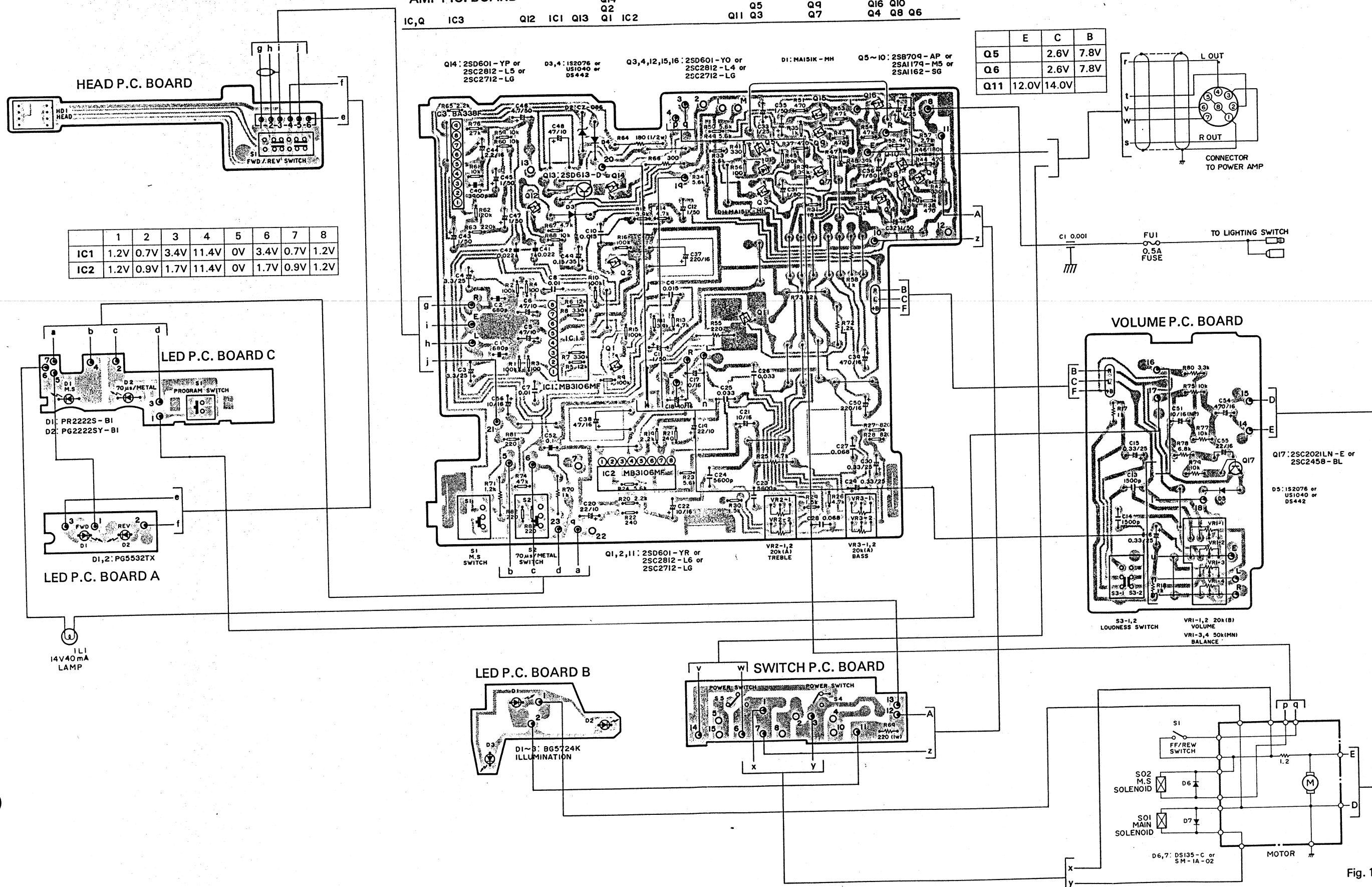
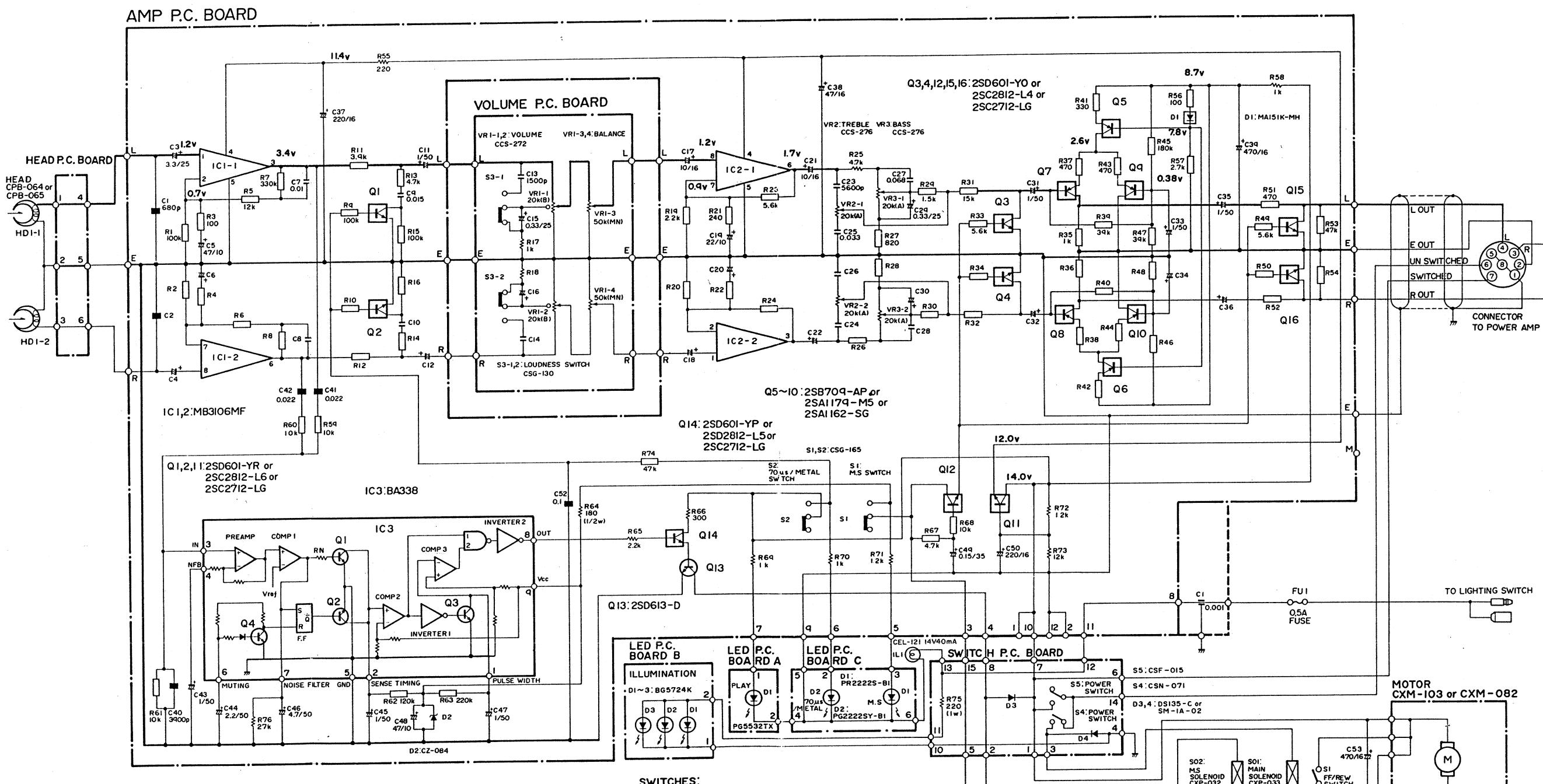


Fig. 11

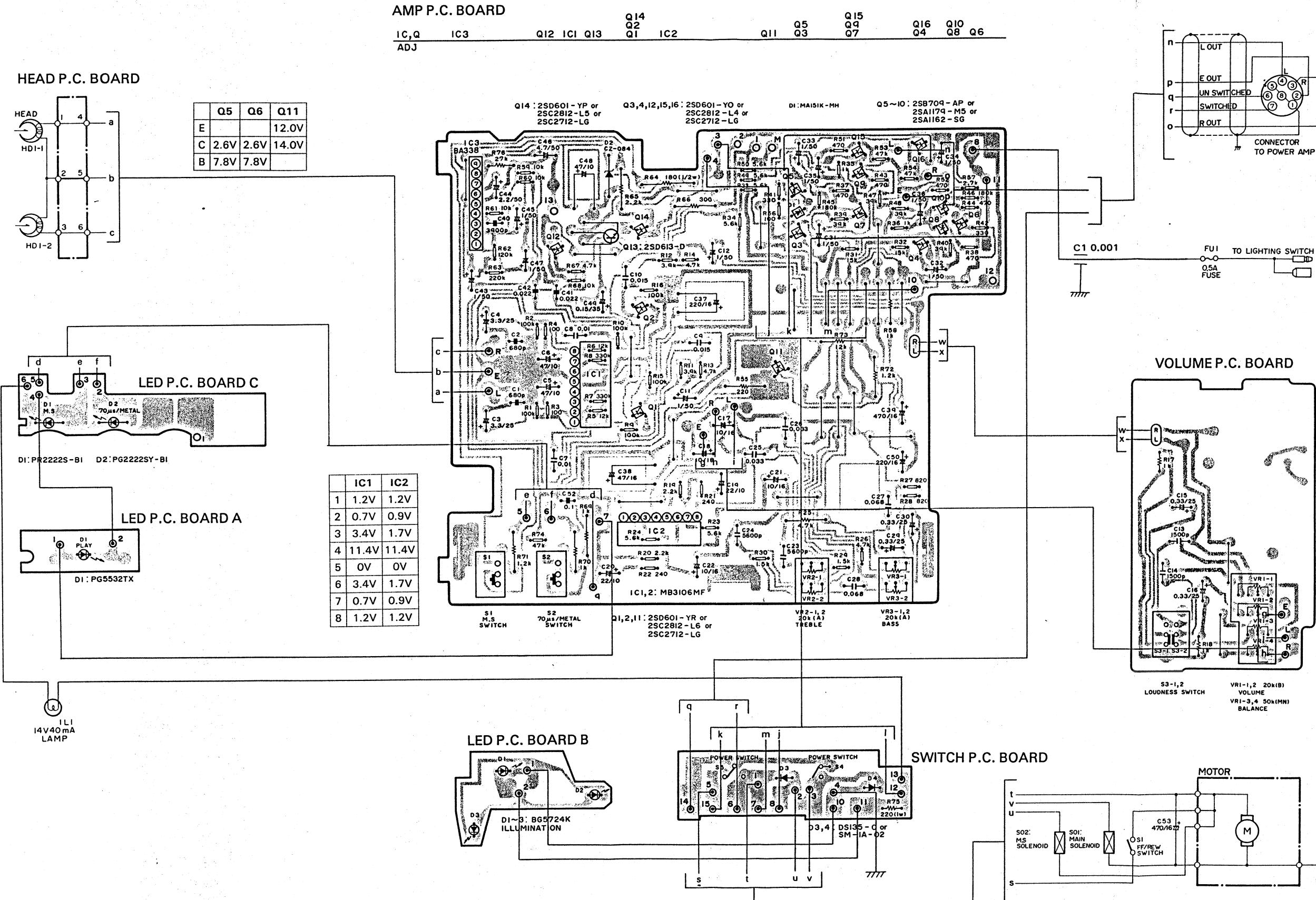
5. SCHEMATIC CIRCUIT DIAGRAM (KP-212G)



NOTE:

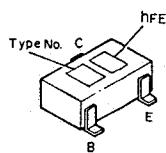
- Indicates a chip resistor
- Indicates a chip capacitor
- Indicates a chip transistor
- Indicates a chip diode

6. CONNECTION DIAGRAM (KP-212G)

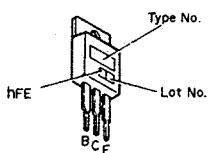


• IC's and Transistors

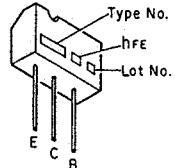
2SD601
2SC2812
2SC2712
2SB709
2SA1179
2SA1162



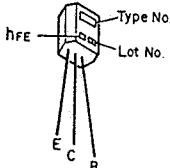
2SD613



2SC2021LN

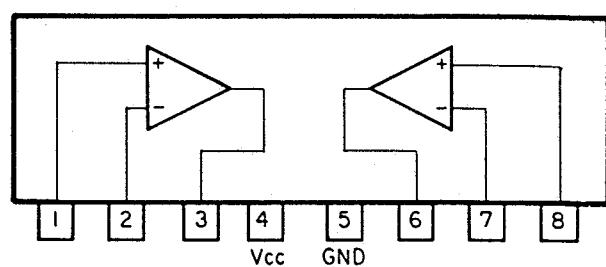


2SC2458

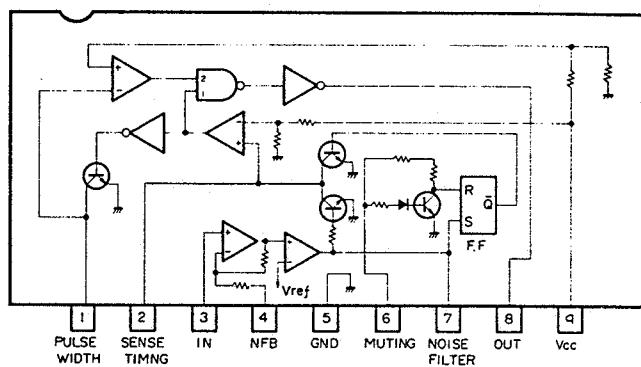


Part No.	Indication (Type No., hFE)
2SC2812-L4	L4
2SC2812-L5	L5
2SC2812-L6	L6
2SC2812-L7	L7
2SC2712-LG	LG
2SC2712-LL	LL
2SC2712-LO	LO
2SC2712-LY	LY
2SD601-YO	YO
2SD601-YP	YP
2SD601-YQ	YQ
2SD601-YR	YR
2SD601-YS	YS
2SA1162-SG	SG
2SA1162-SY	SY
2SB709-AP	AP
2SB709-AQ	AQ
2SB709-AR	AR
2SB709-AS	AS
2SA1179-M5	M5
2SA1179-M6	M6
2SA1179-M7	M7

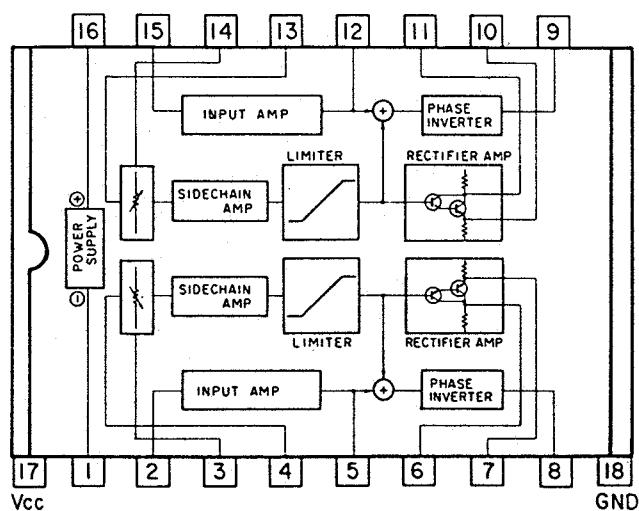
MB3106MF



BA338



HA11226



7. EXPLODED VIEW (KP-212G)

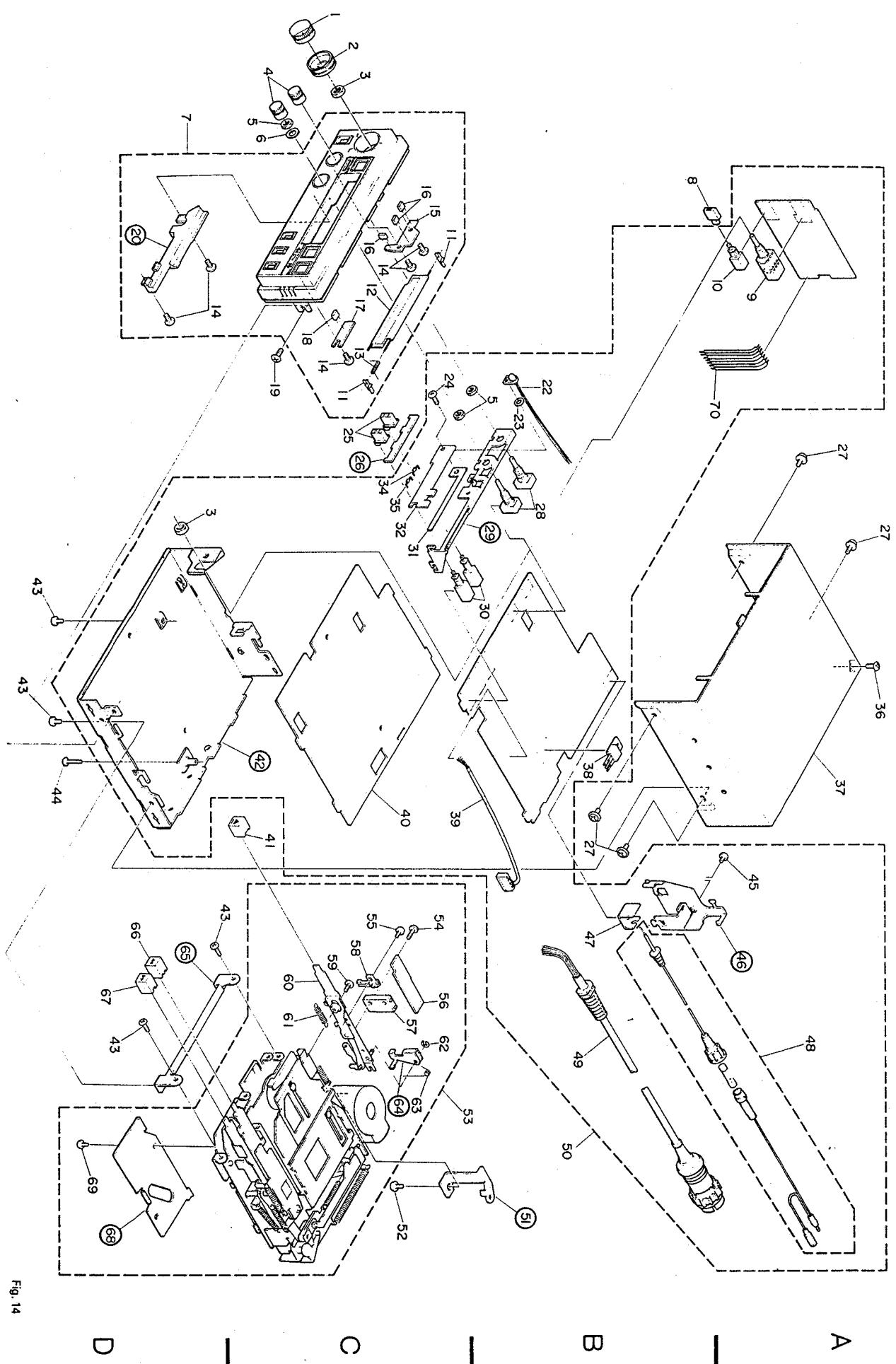


Fig. 14

Parts List (KP-212G)

NOTE:

- For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
- ★★: GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts whose parts numbers are omitted are subject to being not supplied.

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
★	1.	CAA-393	Knob (VOLUME)		44.	BMZ26P120FMC	Screw
★	2.	CAA-394	Knob (BALANCE)		45.	BMZ30P040FMC	Screw
★	3.	CBA-067	Nut (M7)		46.		Holder
	4.	CAA-344	Knob (BASS, TREBLE)		47.	CCL-115	Feed through Capacitor
	5.	CBA-066	Nut (M6)		48.	CDE-879	Cord
	6.	CBF-091	Washer (M6)		49.	CDE-880	Cord
	7.	CXC-784	Grille Assy		50.	CWK-299	Amp Assy
★	8.	CAC-351	Button (LOUDNESS)		51.		Bracket
★★	9.	CCS-272	Volume, 20kΩ(B), 50kΩ(MN) (VOLUME, BALANCE)		52.	BMZ26P030FMC	Screw
★★	10.	CSG-130	Switch (LOUDNESS)		53.	CXC-753	Cassette Mechanism Assy
	11.	CNF-207	Holder		54.	CBA-106	Scrw
	12.	CAT-140	Door		55.	BMZ20P040FMC	Screw
	13.	CBH-656	Spring		56.	CNL-274	P.C. Board
	14.	BNZ20P050FMC	Screw	★★	57.	CSF-015	Switch
	15.	CNL-262	P.C. Board	★★	58.	CSN-071	Switch
★	16.	BG5724K	LED		59.	BMZ23P090FMC	Screw
★	17.	CNL-261	P.C. Board		60.	CXC-744	Bracket
★	18.	PG5532TX	LED		61.	CBH-650	Spring
	19.	BMF30P050FMC	Screw		62.	YE15FUC	Washer
	20.		Lens		63.	CBH-680	Spring
	21.	VACANT			64.		Arm
	22.	CEL-121	Lamp, 14V 40mA		65.		Bracket
	23.	HBF-139	Washer	★	66.	CAC-530	Button (REW)
	24.	BMZ26P050FMC	Screw	★	67.	CAC-529	Button (FF)
★	25.	CAA-527	Button (70μs/METAL, M.S)		68.		Cover
	26.		Cover		69.	BMZ23P030FMC	Screw
	27.	BMN30P050FZK	Screw		70.	CDE-982	Connector
★★	28.	CCS-276	Volume, 20kΩ(A) (BASS, TREBLE)				
★★	29.		Holder				
★★	30.	CSG-165	Switch (70μs/METAL, M.S)				
	31.		Insulator				
	32.	CNL-264	P.C. Board				
	33.	VACANT					
★	34.	PG2222SY-B1	LED				
★	35.	PR2222S-B1	LED				
	36.	CBA-110	Screw				
	37.	CNB-706	Case				
★★	38.	2SD613	Transistor				
	39.	CDE-900	Connector				
	40.	CNM-692	Insulator				
★	41.	CAC-528	Button (EJECT)				
	42.		Chassis				
	43.	BMZ26P040FMC	Screw				

8. EXPLODED VIEW (KP-313G)

Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
★	1.	CAA-393	Knob (VOLUME)		39.	BMN30P050FZK	Screw
★	2.	CAA-394	Knob (BALANCE)		40.	CBA-110	Screw
	3.	CBA-067	Nut (M7)		41.	CNB-706	Case
★	4.	CAA-344	Knob (BASS, TREBLE)	★ ★	42.	2SD613	Transistor
	5.	CBA-066	Nut (M6)		43.	CDF-249	Connector
	6.	CBF-091	Washer (M6)		44.	CNM-692	Insulator
	7.	CNF-207	Holder		45.		Chassis
	8.	CAT-141	Door		46.	BMZ26P040FMC	Screw
	9.	CBH-656	Spring		47.	BMZ26P120FMC	Screw
	10.	BNZ20P050FMC	Screw		48.	BMZ30P040FMC	Screw
	11.	CNL-262	P.C. Board		49.		Holder
★	12.	BG5724K	LED		50.	CDE-879	Cord
	13.	CNL-260	P.C. Board		51.	CCL-115	Feed through Capacitor
★	14.	PG5532TX	LED		52.	CDE-880	Cord
	15.		Lens		53.	CWK-300	Amp Assy
	16.	BMF30P050FMC	Screw		54.		Bracket
	17.	CXC-785	Grille Assy		55.	CXC-771	Cassette Mechanism
★ ★	18.	CCS-272	Volume, 20kΩ(B), 50kΩ(MN) (VOLUME, BALANCE)		56.	BMZ26P030FMC	Screw
★ ★	19.	CSG-130	Switch (LOUDNESS)		57.	CNL-274	P.C. Board
	20.	CAC-351	Button (LOUDNESS)		58.	CBA-106	Screw
	21.	VACANT			59.	BMZ20P040FMC	Screw
	22.	CDF-296	Connector		60.	YE15FUC	Washer
	23.	CEL-121	Lamp, 14V 40mA		61.	CBH-680	Spring
	24.	HBF-139	Washer		62.		Arm
★ ★	25.	CCS-276	Volume, 20kΩ(A) (BASS, TREBLE)	★ ★	63.	CSF-015	Switch
	26.		Holder	★ ★	64.	CSN-071	Switch
★ ★	27.	CSG-165	Switch (70μs/METAL, M.S)		65.	BMZ23P090FMC	Screw
	28.		Insulator		66.	CXC-744	Bracket Unit
	29.	CNL-263	P.C. Board		67.	CBH-650	Spring
	30.	BMZ26P050FMC	Screw		68.		Bracket
	31.		Cushion	★	69.	CAC-528	Button (EJECT)
★ ★	32.	CSG-176	Switch (PROGRAM)	★	70.	CAC-530	Button
	33.		Holder	★	71.	CAC-529	Button
★	34.	CAC-531	Button (PROGRAM)		72.		Bracket
★	35.	CAC-527	Button (70μs/METAL, M.S)				
★	36.	PG2222SY-B1	LED				
★	37.	PR2222S-B1	LED				
	38.		Cover				

9. ELECTRICAL PARTS LIST

NOTE:

A

When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	56×10^1	561	.....	RD1/4PS 5 6 1 J
47kΩ	47×10^3	473	.....	RD1/4PS 4 7 3 J
0.5Ω	0R5	.....	.....	RN2H 0 R 5 K
1Ω	010	.....	.....	RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
 $5.62k\Omega$ 562×10^3 RN1/4SR 5 6 2 1 F

- For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.

★★: GENERALLY MOVES FASTER THAN ★.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

B

Volume P.C. Board (KP-313G)

MISCELLANEOUS

Mark	Part No.	Symbol & Description
★★	2SC2021LN or 2SC2458	Q17
★	1S2076 or US1040 or DS442	D5
★★	CCS-272	VR1
★★	CSG-130	S3

RESISTORS

Mark	Part No.	Symbol & Description
	RD1/4VM□□□J	R17, R18, R75, R77 — R80

CAPACITORS

Mark	Part No.	Symbol & Description
	CQMA152J50	C13, C14
	CSYAR33M25SAN	C15, C16
	CEA100M16NP	C51
	CEA471M16L	C54
	CCH-065	C55

D

Volume P.C. Board (KP-212G)

Mark	Part No.	Symbol & Description
★★	CSG-130	S3
★★	CCS-272	VR1
	RD1/4VM□□□J	R17, R18

CQMA152J50 C13, C14

CSYAR33M25SAN C15, C16

R17, R18, C13, C14

CAPACITORS

Mark	Part No.	Symbol & Description
	CKSYB681K50	C1, C2 Chip Capacitor
	CEANL3R3M25L	C3, C4
	CCH-066	C5, C6, C48 47 μ F/10V
	CQMA103J50	C7, C8
	CQMA153J50	C9, C10
	CCH-060	C11, C12, C31, C32, C33 (KP-212G), C34 – C36, C43, C45, C47 1 μ F/50V
	CCH-063	C17, C18, C21, C22, C56 (KP-313G) 10 μ F/16V
	CCH-064	C19, C20 22 μ F/10V
	CQMA562J50	C23, C24
	CQMA333J50	C25, C26
	CQMA683J50	C27, C28
	CSYAR33M25SAN	C29, C30
	CSZA010M25	C33 (KP-313G)
	CEA221M16L	C37, C50
	CEA470M16L	C38
	CEA471M16L	C39
	CKSYB392K50	C40 Chip Capacitor
	CKSYF223Z50	C41, C42 Chip Capacitor
	CCH-061	C44 2.2 μ F/50V
	CCH-062	C46 4.7 μ F/50V
	CSZAR15M35	C49
	CKSYF104Z25	C52 Chip Capacitor

LED P.C. Board A (KP-212G)

Mark	Part No.	Symbol & Description
★	PG5532TX	D1 LED

LED P.C. Board A (KP-313G)

Mark	Part No.	Symbol & Description
★	PG5532TX	D1, D2 LED

LED P.C. Board B

Mark	Part No.	Symbol & Description
★	BG5724K	D1 – D3 LED

LED P.C. Board C

Mark	Part No.	Symbol & Description
★	PR2222S-B1	D1 LED
★	PG2222SY-B1	D2 LED
★★	CSG-176	S1 (KP-313G) Switch (PROGRAM)

Switch P.C. Board (KP-313G)

Mark	Part No.	Symbol & Description
★★	CSN-071	S4 Switch (POWER)
★★	CSF-015	S5 Switch (POWER)
	RS1P□□□J	R69

Switch P.C. Board (KP-212G)

Mark	Part No.	Symbol & Description
★	DS135 or SM-1A-02	D3, D4
★★	CSN-071	S4 Switch (POWER)
★★	CSF-015	S5 Switch (POWER)
	RS1P□□□J	R75

Head P.C. Board (KP-313G)

Mark	Part No.	Symbol & Description
★★	CSH-070	S1 Switch (FWD/REV)
★★	CPB-066	HD1 Head

Miscellaneous Parts List

Mark	Part No.	Symbol & Description
★	DS135 or SM-1A-02	D6 (KP-313G), D7 (KP-313G)
	CCL-115	C1 Feed through Capacitor
	CEA471M16L	C53 (KP-212G)
★★	CSN-070	S1 Switch (FF/REW)
	CEL-121	IL1 Lamp, 14V 40mA
★★	CXM-103 or CXM-082	M (KP-212G) Motor
★★	CXM-106	M (KP-313G) Motor
★	CXP-033	SO1 (KP-212G) Solenoid
★	CXP-035	SO1 (KP-313G) Solenoid
★	CXP-032	SO2 (KP-212G) Solenoid
★	CXP-034	SO2 (KP-313G) Solenoid
★★	CPB-064 or CPB-065	HD1 (KP-212G) Head